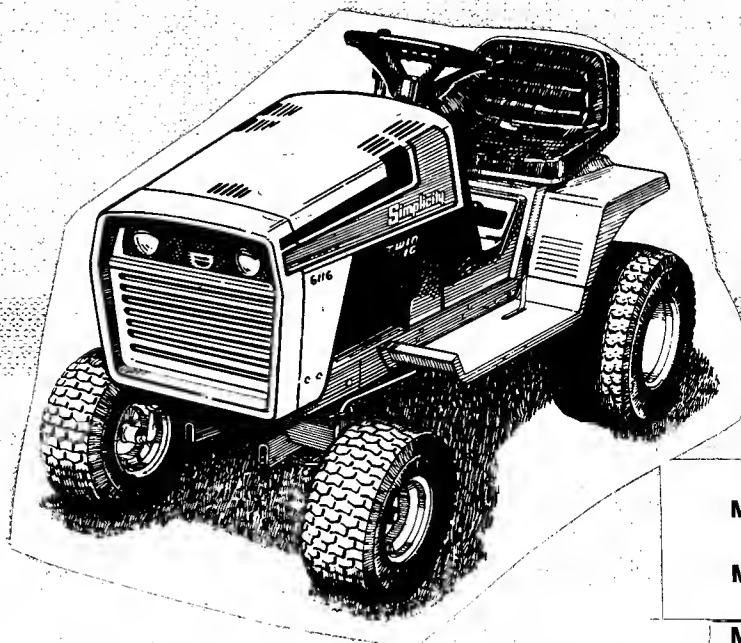


## **Series 6100**

36" MOWER  
MFG. NO. 1690274  
42" MOWER  
MFG. NO. 1690412  
48" MOWER  
MFG. NO. 1690413

6108 8 H.P. TRACTOR  
MFG. NO. 1690450  
6111 11 H.P. TRACTOR  
MFG. NO. 1690448  
6116 16 H.P. TRACTOR  
MFG. NO. 1690422  
6118 18 H.P. TRACTOR  
MFG. NO. 1690598



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**\*Read The Entire Manual Before Operating\***

### NOTE

For information on attachments other than mowers, refer to the attachment Operator's Manual.

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**\*Read The Entire Manual Before Operating\***

## NOTE

For information on attachments other than mowers, refer to the attachment Operator's Manual.

## Safety Rules



Read these safety rules and follow them closely. Failure to obey these rules could result in loss of control of vehicle, severe personal injury to yourself or bystanders, or damage to property or equipment. The triangle  in the text signifies important cautions or warnings which must be followed.

### GENERAL

- Read the Operator's Manual carefully. Be thoroughly familiar with the controls and the proper use of the equipment.
- Never allow children to operate the machine. Do not allow adults to operate it without proper instruction.
- Do not carry passengers.
- Use only attachments or accessories designed for your machine. See your dealer for a complete list of recommended attachments or accessories.
- Keep the area of operation clear of all persons, particularly small children, and pets.
- Never direct discharge of material toward bystanders.

### • Make sure:

- a. tractor and attachments are in good operating condition,
- b. all safety devices and shields are in place and in good working condition, and
- c. all adjustments are correct.

### PREPARATION

- Handle gasoline with care - it is highly flammable.
  - a. Use approved gasoline container.
  - b. Never remove the fuel tank cap or add gasoline to a running or hot engine, or fill the fuel tank indoors. Wipe up spilled gasoline.

- Do not run the engine indoors. Exhaust fumes are deadly.

- Clear the work area of objects which might be picked up and thrown by attachments.

- Disengage all attachment clutches and shift into neutral before attempting to start the engine.

- Wear heavy footwear. Do not operate tractor when barefoot or when wearing open sandals or canvas shoes.

### OPERATION

- Disengage power to attachment(s), stop tractor engine, shift into neutral, set parking brake, lower the attachment, and remove the key before leaving the operator's position for any reason, such as to unclog attachment chutes or to make repairs or adjustments.

- Stop tractor and attachments and inspect for damage after striking a foreign object. Repair any damage before restarting and operating the equipment.

- Watch out for traffic when crossing or operating near roadways.

- Operate only in daylight or in good artificial light.

- Never make any adjustment while the engine is running.

- Operate only up and down the face of slopes; never across the face. Do not stop or start suddenly on slopes.

- Reduce speed on slopes and in sharp turns to prevent tipping or loss of control. Use extreme caution when changing direction on slopes.

- Be especially careful not to touch tractor or attachment parts which might be hot from operation. Allow such parts to cool before attempting to maintain, adjust, or service.

- Stay alert for holes in the terrain and other hidden hazards. Be especially careful when operating on wet or slippery surfaces.

- If equipment begins to vibrate abnormally, disengage power to attachments and stop engine at once. Inspect for damage and correct before starting up tractor.

- Use care when pulling loads or using heavy equipment.

- a. Use only drawbar hitch point.

- b. Limit loads to those you can safely control.

- c. Do not turn sharply. Use care when backing.

- d. Use weights when recommended in the tractor or attachment Operators Manual.

- Disengage power to attachment(s) when transporting or not in use.

## **MAINTENANCE & STORAGE**

- Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.

- Do not change the engine governor settings or overspeed the engine.

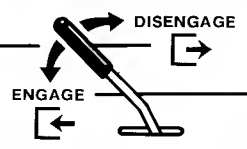
- To reduce fire hazard, keep the engine free of grass, leaves, and excess grease.

- Never store the equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.


**ALL WARNING, CAUTION, and instructional messages on your tractor and mower should be carefully read and obeyed. Personal bodily injury can result when these instructions are not followed. The information is for your safety and it is important. The safety messages on this page are on your tractor and mower.**

## Decals

### SNOW THROWER AND MOWER PTO



### SHIFT PATTERN



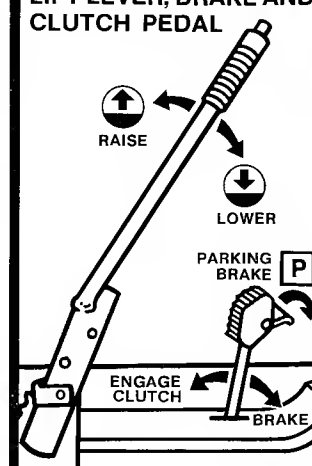
### CAUTION

- Keep all shields in place.
- Keep hands, feet, and clothing away from power driven parts.
- Keep people and pets a safe distance away from machine.
- For your safety, to start tractor transmission shift lever must be in neutral and PTO disengaged. Set parking brake.
- Before operating read safety instructions in operator's manual.

Before leaving operator's position:

- Shift transmission to neutral.
- Disengage PTO.
- Set parking brake.
- Shut off engine and remove key.
- Wait for all movement to stop before servicing.

### LIFT LEVER, BRAKE AND CLUTCH PEDAL



**⚠ DANGER**  
keep hands & feet  
from under mower

**⚠ DANGER**

1. Stand clear of discharge opening.
2. Do not operate mower without discharge deflector or entire grass collector system properly installed.

## Mower Installation & Removal

### TRACTOR/MOWER COMBINATIONS

Tractor/mower combinations are shown in the chart. For the 36 inch and 48 inch mowers, always use the PTO rod shipped with mower. For the 42 inch mower, the correct PTO rod to use depends on the tractor. Model 6111 always uses a shorter (17-1/4") PTO rod. Models 6116 and 6118 always use a longer (19") PTO rod. See figure 1 to measure a rod. (When a 42" mower is shipped with a tractor the correct PTO rod is supplied.)

|                   |                              |
|-------------------|------------------------------|
| 6108              | 36" Mower                    |
| 6111              | 42" Mower                    |
| 6116<br>&<br>6118 | 42" Mower<br>or<br>48" Mower |

Chart. Tractor/Mower Combinations



### WARNING

Stop engine, set parking brake, and remove key to prevent accidental starting. Never attempt to install or remove your mower when engine is running.

### INSTALLATION

1. Place the tractor and mower on a smooth, hard surface, such as concrete, with the mower on the right side of the tractor, and the hitch toward front of the tractor.
2. Turn the front wheels of the tractor as far as they go to the left.
3. Lower the tractor lift lever. Place the mower in lowest cutting position using the mower height control lever.

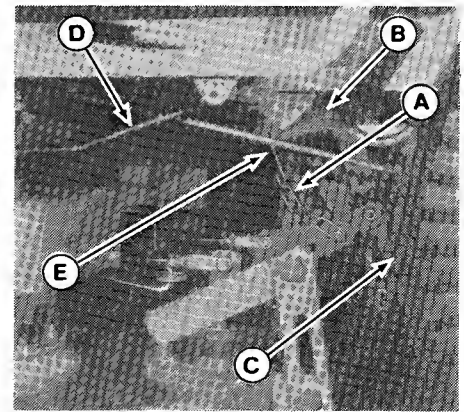


Figure 2. Lift Chain & PTO Rod

4. Slide the mower under the tractor so that the lift chain is under the lift lever arm (figure 2).
5. Hook the lift rod (E) into the lift lever arm (B). Hook the chain (A) onto the lift rod (E).
6. Attach the mower hitch to the rear holes in the tractor hitch using the two pins and safety clips provided. The left side is shown attached in figure 3.

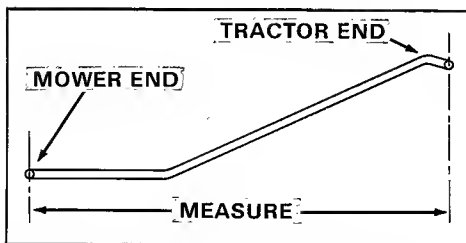
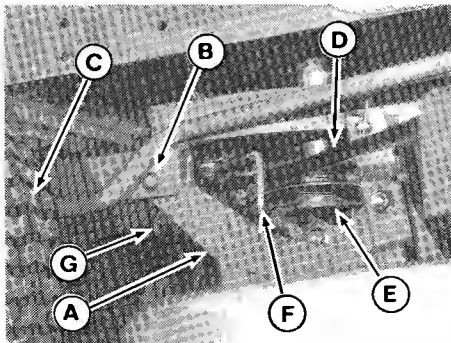


Figure 1. PTO Rod Measurement



- |                    |                      |
|--------------------|----------------------|
| A. Mower Hitch     | E. Engine PTO Pulley |
| B. Pin             | F. Left Hand PTO     |
| C. Left Front Tire | Pulley Belt Stop     |
| D. Drive Belt      | G. Safety Clip       |

Figure 3. Mower Hitch Attached, Side View

- Slip the mower drive belt onto the engine PTO pulley (figure 3). Loosen the belt stops if necessary. (See figure 35A or 35B on page 31 for a view of right hand pulley belt stop.)
- Attach the PTO rod to the tractor PTO lever in hole marked "MOW" with the spring clip provided (figure 4).

- Check Belt Tension (page 30), PTO Pulley Belt Stops (page 31), Mower Belt Stops (page 34 for 36" mowers and page 31 for all other mowers). If installing for the first time, check Mower Levelling in Adjustments section. If belt is new, check belt tension adjustment again after two hours of operation.

#### REMOVAL

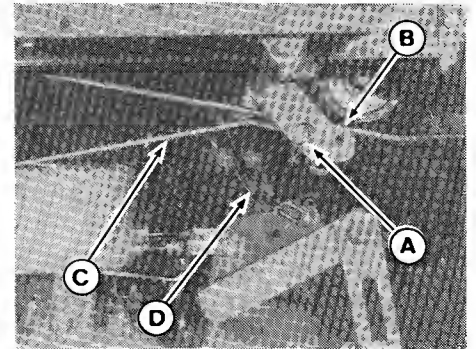


#### WARNING

Take special care when working near the engine muffler. If it is hot from recent operation it can cause serious burns.

- With the PTO disengaged, remove the drive belt (D, figure 2) from the engine PTO pulley.
- Disconnect the PTO rod from the tractor PTO lever by removing the spring clip (A, figure 4). Reinstall the spring clip in the rod for storage.
- Place the mower in lowest position and lower the tractor lift lever.

- Unhook the lift chain from the lift rod (figure 1). Remove lift rod.
- Remove the two pins and safety clips from the mower hitch (figure 3). Replace pins and clips in the hitch for storage.
- Turn the tractor wheels as far as possible to left. Slide the mower out from the right side.



- |                |
|----------------|
| A. Spring Clip |
| B. PTO Lever   |
| C. PTO Rod     |
| D. Lift Chain  |
- Figure 4. PTO Rod



# Operation

## CONTROLS

Refer to figure 5 to identify the controls.

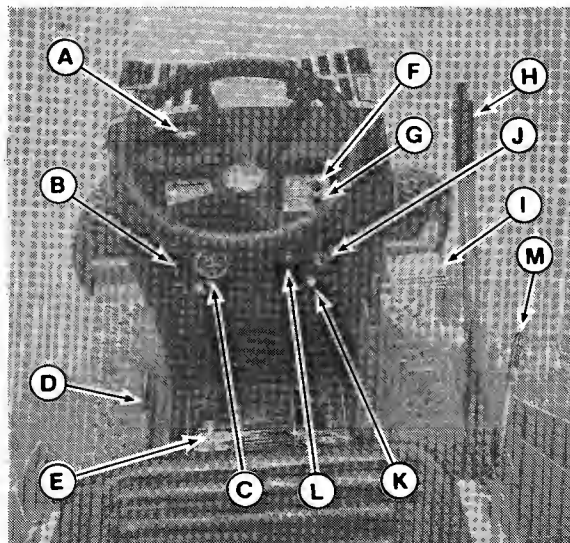


Figure 5. Tractor Controls

| ITEM | NAME                               | FUNCTION   |
|------|------------------------------------|--|
| A    | Gas Gauge/<br>Cap                  | Shows the amount of gasoline in the tank & serve as gas tank cap.  |
| B    | Throttle Lever                     | Position from SLOW to FAST to adjust engine speed. (On 6108 & 6111, lever also has position for engine choke.)   |
| C    | Ammeter                            | Shows when battery is being charged or discharged.   |
| D    | PTO (Power<br>Take Off)<br>Lever   | Engages & disengages attachments.  |
| E    | Gear Shift<br>Lever                | Shifts trans. gears to control ground speed. 3 speeds forward, 1 speed reverse. Neutral position for starting.   |
| F    | PTO Safety<br>Interlock            | Lights up when ignition switch is turned to START & PTO is disengaged. (PTO must be disengaged to start engine).   |
| G    | Trans. Safety<br>Interlock<br>Lamp | Lights up when ignition switch is turned to START position & gear shift lever is in NEUTRAL position. (Gear shift Lever must be in NEUTRAL position to start engine.)                  |
| H    | Lift Lever                         | Lifts & holds the mower & other attachments in transport position.   |
| I    | Clutch-Brake<br>Pedal              | Controls both tractor clutch & brake. Disengages clutch when pressed down at least halfway. Applies brake when fully depressed. Sets parking brake when latched over end of foot rest. |
| J    | Ignition<br>Switch                 | Operates with key to start, run or stop the engine.  |
| K    | Choke (6116<br>& 6118 only)        | Aids in starting a cold engine.  |
| L    | Light Switch                       | Switches headlights on or off.   |
| M    | Mower<br>Height<br>Control Lever   | Adjusts mower cutting height.  |

**CHECKS BEFORE STARTING**

Perform any needed care listed in Table 1, Schedule of Normal Care (page 10). Always make checks listed under "Before Each Use".

**STARTING THE ENGINE****WARNING**

Do not start or run engine in an enclosed area. Exhaust fumes are deadly.

1. Make sure the clutch-brake pedal is locked in down position, PTO lever is disengaged, and gear shift lever is in neutral. (The engine will not start unless the PTO is disengaged and gear shift lever is in neutral.)
2. Choke the engine. To choke the 6116 or 6118, pull out the choke knob. To choke the 6108 or 6111, place the throttle lever in **CHOKE** position. It may not be necessary to choke a warm engine.
3. Insert the key into the ignition switch and turn to **START** position. When

the engine starts, release the key. It will return to **ON** position for normal running.

4. For the 6108 or 6111, move the throttle lever to **SLOW**. For the 6116 or 6118, push in choke as engine warms.
5. Warm up the engine by running it for at least a minute before engaging the PTO lever or driving the tractor.

**SELECTING GEARS & ENGINE SPEED**

Shift gears only with clutch disengaged (pedal down) and tractor completely stopped. Ground speed is controlled by selecting the appropriate gear. Engine speed, which controls mower speed, is controlled by the throttle lever.

When transporting, select first gear for slopes or rough ground; select second gear for slight slopes; and select third gear for smooth, level ground. Set engine speed from 1/3 to full throttle, depending on desired speed.

When mowing, select second gear for a level lawn with light-to-moderate grass; and select first gear for a rough lawn, or when grass is

wet or over three inches (76 mm) high. Set engine speed from 3/4 to full throttle depending on grass conditions. Use full speed (with low gear) for wet or high grass.

**OPERATING**

1. Start the engine and select the appropriate gear. Raise the mower.
2. Position the front wheels straight ahead. If possible, the first motion should be straight forward or backward.

**WARNING**

Use caution and reduce engine speed when traveling in reverse.

3. Set throttle lever for 1/3 speed.
4. Release the parking brake by unlatching the clutch-brake pedal from footrest.
5. Make sure the path in desired direction of movement is clear.
6. Slowly release the clutch-brake pedal to engage the clutch and start tractor into motion.

7. Adjust the throttle lever for desired engine speed.
8. At work site, bring the tractor to a complete stop. For a **gradual stop**, press the clutch-brake pedal down only far enough to disengage the clutch. For a **more rapid stop**, press the pedal down farther to apply the brake.
9. Lower the mower, set the parking brake, shut off the engine, and remove the key. Clear the work site of any objects that might be thrown by mower.
10. Start the engine and select the appropriate gear for mowing.
11. Engage the PTO and release the clutch-brake pedal to start mowing operation. Adjust the throttle lever for desired engine speed. Do not shift gears when tractor is in motion.

#### BEFORE LEAVING TRACTOR

1. Stop the tractor and set the parking brake. Disengage the PTO.

2. Set throttle lever to SLOW. Let the engine idle for about one minute before stopping the engine. Stopping a hot engine too suddenly may damage the engine.
3. Lower the mower.
4. Turn the ignition key to OFF and remove it.



#### WARNING

Never operate on slopes greater than 30 percent (16.7°) which is a rise of three feet vertically in 10 feet horizontally.



#### WARNING

When operating on slopes that are greater than 15 percent (8.5°) but less than 30 percent use rear wheel weights (see your dealer). Use slow ground speeds. Mow up and down the face of slopes and never across the face. Use caution when changing directions and **DO NOT STOP OR START.**



#### WARNING

Refer to your attachment Operator's Manual for special requirements. When mowing with a vacuum collector attachment, always use the front counterweight.

#### MOWING SUGGESTIONS

When mowing for the first time, operate on a level surface at a slow ground speed until you become familiar with the controls and handling of the machine. Make sure mower is properly installed and adjustments are correct.

The size and type of area to be mowed determine the best mowing pattern to use. Obstructions such as trees, fences and buildings must also be considered. Where possible, make one or two passes in a clockwise direction around the outside of the area to keep cut grass off fences and walks. The remainder of the mowing should be done in a counterclockwise direction so the clippings are dispersed on the cut area.

On moderate size, frequently-mowed lawns where grass is light and dry, it is sometimes

practical to mow in a clockwise direction so that clippings are thrown toward the center of the lawn and concentrated for pickup and removal.

Where possible, keep the left side of the mower toward trees, posts, or other obstacles on the first pass around the obstacles to keep hand trimming to a minimum.

Most lawns should be mowed to keep the grass approximately two to three inches (50 to 76 mm) high. Best results are obtained by cutting often and not too short. To help keep a green lawn, never mow more than one third off the height of the grass, or a maximum of one inch (25 mm), in one mowing.

On thick, or springy grass or soft ground, the mower rollers may sink into the ground giving too low a cut. Adjust the cutting height as necessary.

For best appearance, grass should be cut in the afternoon or early evening (in daylight) when it is free of external moisture.

Where possible, change patterns occasionally to eliminate matting, graining or a corrugated appearance.

## Normal Care



### WARNING

Stop engine, remove key, set parking brake, and wait for moving parts to stop before performing maintenance. Wait for engine to cool before working around engine.

### DETERMINING OPERATING TIME

Determining operating time is easily accomplished if the tractor is equipped with an optional hourmeter. If not, multiply the time it takes to do one job by the number of times you've done the job.

### NORMAL CARE SCHEDULE

A schedule for normal care is provided in Table 1.

### RAISING HOOD & SEAT DECK

To raise the hood or seat deck, refer to figure 6.

|  |               | Schedule         |                 |               |                   |                 |                     |
|--|---------------|------------------|-----------------|---------------|-------------------|-----------------|---------------------|
| Care Required  | See           | Before First Use | Before Each Use | Every 5 Hours | ** Every 25 Hours | Every 100 Hours | *** Spring and Fall |
| Check gas gauge  | P. 11         | •                | •               |               |                   |                 |                     |
| Check tractor & mower for loose nuts, screws, bolts, oil leaks, etc.   |               | •                | •               | •             |                   |                 |                     |
| Check engine oil level   | Engine Manual | •                | •               | •             |                   |                 |                     |
| Clean engine & air filter  | Engine Manual |                  |                 |               | •                 |                 |                     |
| Change engine oil*   | Engine Manual |                  |                 |               | •                 |                 | •                   |
| Lubricate tractor & mower  | P. 12, 15     | •                |                 |               | •                 |                 |                     |
| Check fluid levels & tires   | P. 13         | •                |                 |               | •                 |                 |                     |
| Check fuel filter  | P. 11         |                  |                 |               |                   | •               |                     |
| Clean battery & cables   | P. 14         |                  |                 |               |                   | •               |                     |
| Clean/sharpen blades   | P. 17         |                  |                 |               |                   | •               |                     |
| Inspect spark plug(s)  | Engine Manual |                  |                 |               |                   | •               |                     |
| *Change original engine oil after first 5 hours of operation.<br>**More often in hot (over 85°F: 30°C) weather or dusty operating conditions.<br>***Only if tractor is used in both summer (over 40°F) and winter (under 40°F: 4.5°C). |               |                  |                 |               |                   |                 |                     |

Table 1. Schedule of Normal Care - Tractor & Mower.

**CHECK FUEL FILTER****WARNING**

Do not remove fuel filter when engine is hot, as spilled gasoline may ignite. Do not spread hose clamps further than necessary. Insure clamps grip hoses firmly over filter after installation.

If the filter (see figure 6) is dirty or clogged, service as follows.

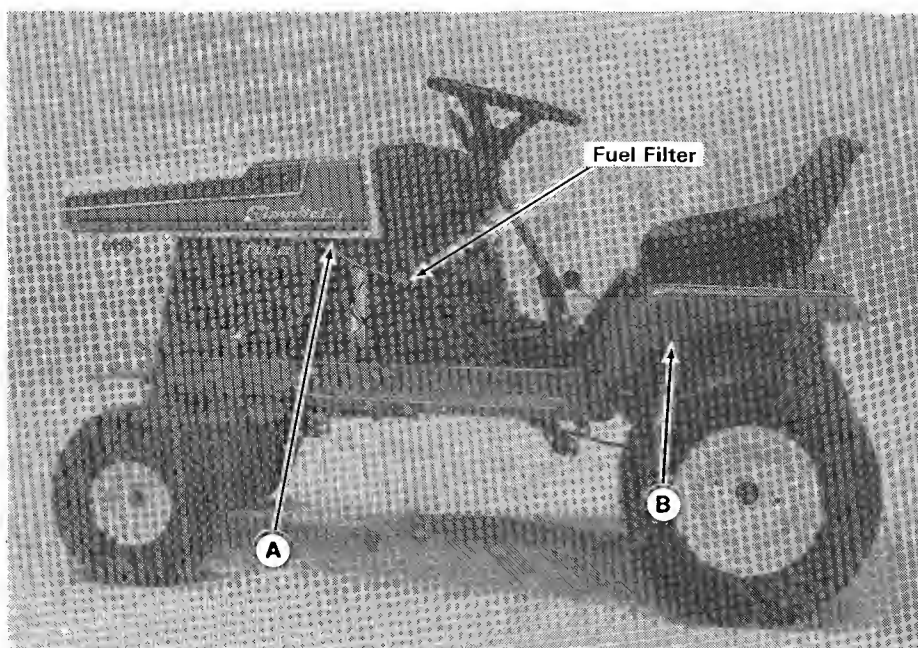
1. Using a pliers, open and slide hose clamps from fuel filter.
2. Remove hoses from filter.
3. Install new filter in proper flow direction in hoses. Secure by reclamping with hose clamps. See warning above.

**CHECK/ADD GASOLINE**

Clean the area around the gas/gauge cap then remove the cap. Fill the tank with clean, fresh, leaded or lead-free regular grade gasoline. Install and hand tighten the gas/gauge cap.

**WARNING**

Never add gasoline when engine is hot or running.



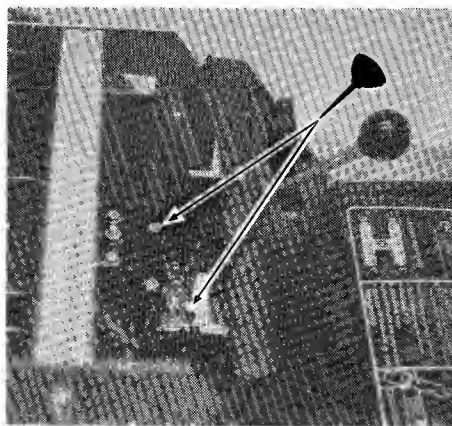
A. Pull out at this point on each side and lift the hood.

B. Reach under the left seat deck and press the latch up. The entire seat deck tilts back.

Figure 6. Raising Hood & Seat Deck

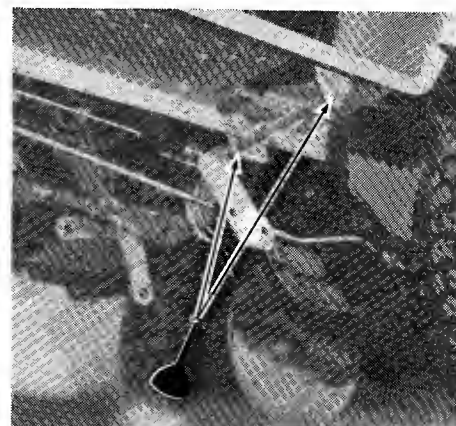
### TRACTOR LUBRICATION

Lubricate the tractor as shown in figure 7 thru 10. Refer to Table 2, Lubrication Chart, for correct lubricant and procedure.



Lube Points: Two Pivot Points of Gear Shift Lever.

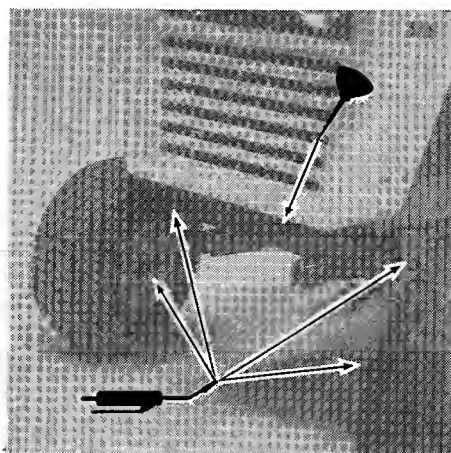
Figure 7. Location: Under Seat



Lube Points: Two Pivot Points of PTO Lever.

Figure 8. Location: Under Left Footrest.

Table 2. Lubrication Chart



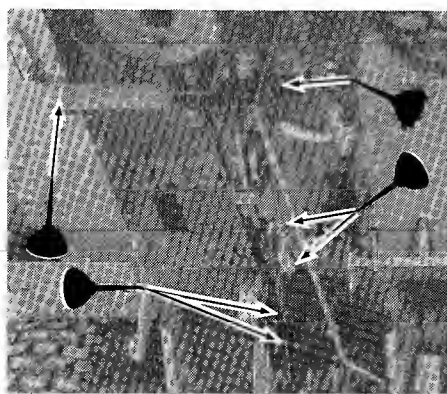
Lube Points: Four Grease Fittings & Bolt in Center of Axle  
Figure 9. Location: Front Axle

### CHECK FLUID LEVELS & TIRE PRESSURE

#### NOTE

Wait at least ten minutes after operation before checking transmission oil level.

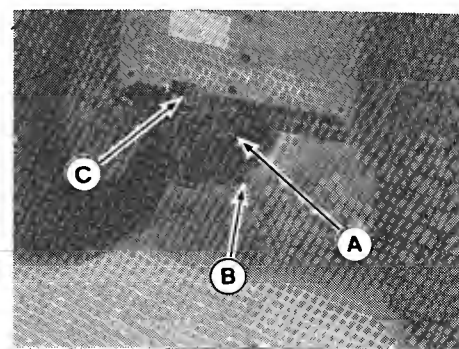
1. Check transmission oil level as follows.



Lube Points: Two Pivot Points of Clutch-Brake Pedal; Two Points on Clutch Rod that Contact Rod Guide; Two Pivot Points of Idler Pulley Bracket.

Figure 10. Location: Under Tractor

- a. Remove the transmission oil level check capscrew (A, figure 11). (Apply sealant to capscrew threads before reinstalling.)
- b. Oil should be level with bottom of hole. If not, remove the drawbar. Remove the fill plug and add Multi-Purpose power train oil. When oil is level with check hole replace and



(Drawbar Removed)

- A. Oil Level Check Capscrew  
B. Drain Plug (Capscrew)  
C. Fill Plug

Figure 11. Transmission Oil Level Check

tighten capscrew and fill plug. Reinstall the drawbar.

2. Check battery fluid level as follows.
  - a. Raise the seat.
  - b. Remove filler caps, one at a time.
  - c. Fluid must be even with split ring full mark (figure 12). If not, add distilled water.
  - d. Reinstall filler caps.



3. Check air pressure of all four tires.  
Front tires should be 12 to 15 psi.  
Rear tires should be 6 to 8 psi.

#### **CLEAN BATTERY & CABLES**



##### **WARNING**

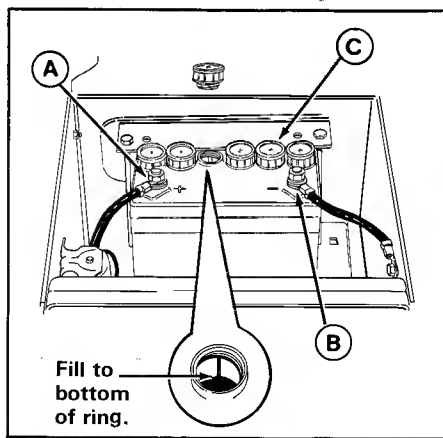
Always disconnect the negative cable **FIRST** and reconnect it **LAST**. The positive battery terminal can easily be shorted to the tractor frame by a wrench or other tool if this is not done.



##### **WARNING**

Be careful when handling the battery. Avoid spilling electrolyte. Keep flames and sparks away from the battery to avoid explosion.

1. Disconnect the cables from the battery, negative cable first (figure 12).
2. Remove the battery clamp, then remove the battery.
3. Scrub the battery, cable, and battery compartment with baking soda and water.



A. Positive Terminal  
B. Negative Terminal  
C. Battery Clamp  
**Figure 12. Battery Fluid Level**

4. Clean the battery terminals and cable clamps with a wire brush.
5. Reinstall battery and clamp (figure 12).
6. Connect cables, positive cable first.
7. Coat cable clamps and terminals with grease or petroleum jelly.

#### **NORMAL STORAGE**

Clean all grass and dirt from the mower. To protect your tractor, store it in an enclosed dry area. Do not store in it an enclosure where fumes from the fuel tank could reach an open flame without first running the fuel tank dry. Clean the seat with a vinyl cleaner.

To store your tractor in a cold area between winter snow removal jobs, we suggest that you fill the fuel tank at the completion of each job to prevent water condensation in the fuel tank.

#### **TRACTOR OFF-SEASON STORAGE**

When the tractor is to be stored for two months or longer, take precautions as follows:



##### **WARNING**

Keep open flame or spark away from flammable gasoline when working near the fuel tank. Never store tractor where gasoline fumes may be reach an open flame or spark.

1. To empty or prepare fuel tank:
  - a. Run tractor engine until it stops from lack of fuel, or;
  - b. Use a gasoline stabilizer. This additive, available from your dealer, prevents formation of gum and varnish for up to one year. With the additive, fuel may remain in your tank for long periods.
2. Change engine oil while the engine is still warm. Record the type and weight of oil put in crankcase.
3. Remove spark plug(s). Pour one ounce (30 ml) of SAE 30 oil into engine through spark plug hole(s). Crank engine a few times to distribute oil and then reinstall the spark plug(s).
4. Lubricate tractor. (See page 12.)
5. Check battery fluid level (page 13). Battery life will be extended if it is removed and stored in a cool, dry place, fully charged.
6. Clean tractor thoroughly. Coat all exposed bare metal (unpainted) parts with a good quality paint (obtainable from your dealer) or a light film of

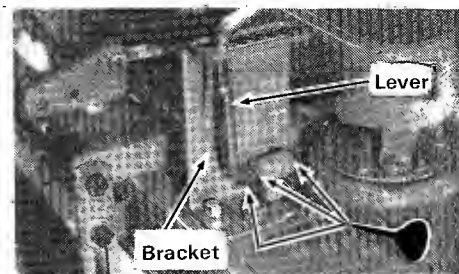
grease or oil. Keep oil off belts and pulleys.

#### STARTING AFTER STORAGE

1. Replace battery, if removed. Be sure terminals and clamps are clean (see page 14).
2. Remove spark plugs and wipe dry. Crank engine a few times to blow excess oil out of plug holes. Then reinstall the plugs.
3. Fill fuel tank with fresh gasoline (unless a fuel stabilizer was used).
4. Clean engine fins and air filter. (See engine manual.)
5. Check fluid levels and tire pressure. (See page 13.)
6. Start the engine outdoors. Do not run engine at high speeds immediately after starting.

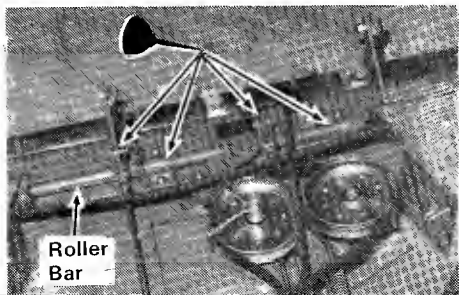
#### LUBRICATE MOWER

Lubricate all points where metal rubs against metal. For the 42" or 48" mower, lubricate the points shown in figures 13 thru 15. For the 36" mower, lubricate the points shown in figures 16 thru 18. Use an oil can with medium weight (SAE 30) oil. Brush and wipe dirt and grass from the area before applying oil. Wipe up drips or spills. Keep oil off belts and pulleys.



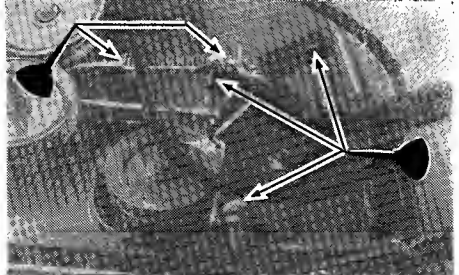
**Lube Points: Height Control Lever; Point Where Roller Bar Contacts Bracket.**

**Figure 13. Mower Height Control**



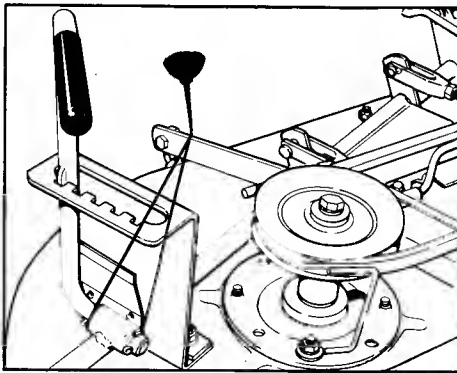
**Lube Points:** Two points where roller bar contacts brackets; Two pivot points of turnbuckles.

**Figure 14. Mower Arm & Adjusting Rods**



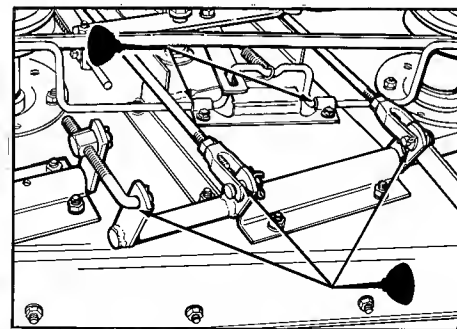
**Lube Points:** Two hitch pivot points; Two points on clutch rod that contact rod guide; PTO rod connection point.

**Figure 15. Hitch & Clutch Lever**

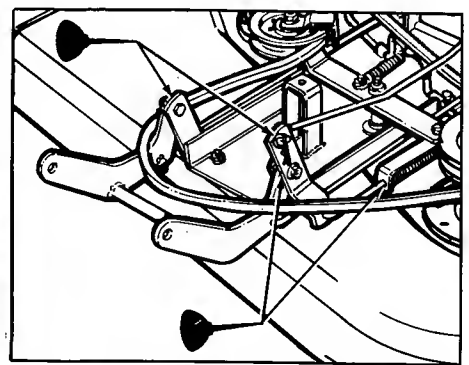


**Lube Points:** Each side of height control lever.

**Figure 16. Mower Height Control**



**Figure 17. Brake Lever, Hitch Clevises, and Levelling Rod**



**Figure 18. Hitch & Pivot Bracket, PTO Lever, & PTO Arm.**

**CLEAN, SHARPEN & BALANCE  
BLADES**

1. Remove the mower from the tractor.
2. Position the mower as in figure 19. Secure the mower so it will not fall or slide.

**WARNING**

Do not handle the sharp mower blades with bare hands. Avoid touching the cutting edge. Careless or improper handling of blades may result in serious injury.

6. Check and balance blade. Use a balancing machine or the fixture shown in figure 20. File material off heavier end of blade until it is balanced.

**WARNING**

Blade mounting capscrews must be installed with the cup washer and spline washer and then securely tightened. Torque blade mounting capscrews to 50 ft. lbs. (68 N.m).

7. Reinstall each blade with the tabs pointing up toward deck and secure with a capscrew, cup washer, and spline washer. Be sure the splines on the spline washer are aligned with the shaft and the washer is flush against blade. Be sure cup washer is installed concave side up. Use a wooden block to prevent blade rotation and torque capscrew to 50 ft. lbs. (68 N.m) (figure 21).

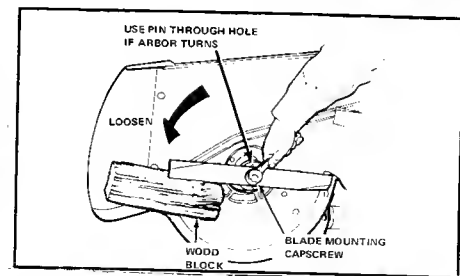


Figure 19. Removing Blade

|   |    |   |
|---|----|---|
| 8. Brake will not hold.   | A. | Brake is incorrectly adjusted. See Adjustment section.                                      |
|   | B. | Brake lining worn and requires replacement. See your dealer.                                |
| 9. Tractor handles poorly.  | A. | Steering linkage is loose. Check and tighten any loose connections.                         |
|   | B. | Improper tire inflation. Check and correct (see page 14).                                   |
|   | C. | Wheels are spinning and slipping. Use weights to provide additional stability and traction. |
|   | D. | Moving too fast on slopes. Reduce speed.  |
| 10. Main (tractor) drive belt does not stop when clutch-brake is depressed. | A. | Belt stops out of adjustment. See Adjustments section.                                      |
|   | B. | Belt tension out of adjustment. See Adjustments section.                                    |

#### **TROUBLESHOOTING (MOWER)**

|                                |    |  |
|--------------------------------|----|--|
| 1. Mower will not raise.       | A. | Lift chain not attached or broken. Attach or repair.   |
| 2. Mower cut is uneven.        | A. | Mower not leveled properly. See leveling adjustment in mower adjustment section.                         |
|                                | B. | Tractor tires not inflated equally or properly. See page 14.   |
| 3. Mower cut is rough looking. | A. | Engine speed too slow. Set for three-fourths to full speed.  |
|                                | B. | Tractor ground speed too fast. Use lower gear.   |
|                                | C. | Blades dull and require sharpening. See Normal Care section.   |
|                                | D. | Mower drive belt slipping. Belt oily or worn. Clean or replace belt as necessary. Readjust belt tension. |

**Table 3. Troubleshooting (Cont'd)**

## Troubleshooting & Repair

### CONTENT OF SECTION

This section of the manual provides troubleshooting and repair instructions for the more common and easily corrected problems. For other problems, it is recommended that you contact your dealer.



#### WARNING

Perform maintenance on the tractor or mower only when the engine is stopped and the parking brake engaged. Always remove the ignition key and disconnect spark plug wire before beginning the maintenance to prevent accidental starting of the engine.

### TROUBLESHOOTING PROCEDURES

Troubleshooting procedures are provided in Table 3. To use these procedures, first locate the problem description that best describes the trouble that you have encountered. Check the possible causes one at a time in the order that they are listed.

#### Problem

#### Cause/Remedy

##### 1. Engine will not start

- A. Gear shift lever not in neutral-start position. Check safety interlock lights. Shift into neutral.
- B. PTO clutch lever not disengaged. Check safety interlock lights. Disengage fully.
- C. Out of fuel. Refill fuel tank.
- D. Engine flooded. Push choke knob in, (6116, 6118) or move control out of CHOKE (6108,6111).
- E. Circuit breaker tripped. Wait one minute for automatic reset. Replace if defective (see your dealer).
- F. Battery terminals require cleaning. See Normal Care section.
- G. Battery discharged or dead. Recharge or replace.
- H. Wiring loose or broken. Visually check wiring & replace broken or frayed wires. Tighten loose connections.
- I. Solenoid or starter motor faulty. Repair or replace.
- J. Safety interlock switch faulty. Replace if needed. (See your dealer.)
- K. Spark plug or points faulty, fouled, or incorrectly gapped. Clean & gap or replace.
- L. Water in fuel. Drain fuel & refill with fresh fuel.
- M. Old stale gas. Drain fuel & replace with fresh fuel.

Table 3. Troubleshooting



### WARNING

Use extreme care when jump starting. Never expose battery to open flame or electric spark — battery action generates hydrogen gas which is flammable and explosive. Do not allow battery acid to contact skin, eyes, fabrics, or painted surfaces. Batteries contain a sulfuric acid solution which can cause serious personal injury or property damage.

1. Set parking brake and place transmission in "NEUTRAL". Turn off lights and other electrical loads.
2. Remove vent caps from both the booster and the discharged batteries. Lay a cloth over the open vent wells on each battery. These two actions help reduce the explosion hazard always present in either battery when connecting a "live" battery to a "dead" battery.
3. Attach one end of one jumper cable to the positive terminal of the booster battery (identified by a red color, "+")

or "P" on the battery case, post or clamp) and the other end of same cable to positive terminal of discharged battery. DO NOT permit vehicles to touch each other, as this could establish a ground connection.

4. Attach one end of the remaining cable to the negative terminal (black color, "-" or "N") of the booster battery, and the other end to a bare metal surface on the frame of your tractor AWAY FROM the battery compartment (do not connect directly to negative post of dead battery). Take care that clamps from one cable do not inadvertently touch the clamps on the other cable. Do not lean over the battery when making this connection.
5. The tractor with the discharged battery should now start.

Reverse the jump starting procedure exactly to remove the jumper cables. Then reinstall the vent caps and throw the cloths away as they may have corrosive acid on them.



### WARNING

Any procedure other than the above could result in: (1) personal injury caused by electrolyte squirting out of the battery vents, (2) personal injury or property damage due to battery explosion, (3) damage to the charging system of the booster vehicle or of the immobilized vehicle.

Do not attempt to jump start a vehicle having a frozen battery because the battery may rupture or explode. If a frozen battery is suspected, examine all fill vents of the battery. If ice can be seen or if the electrolyte fluid cannot be seen, do not attempt to start with jumper cables as long as the battery remains frozen.

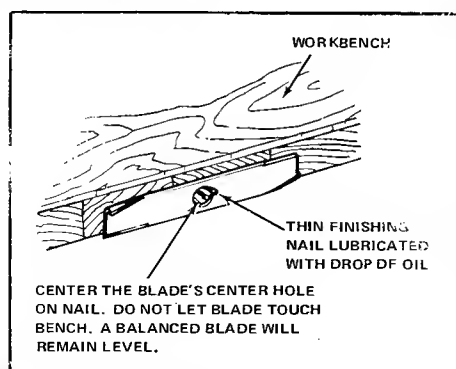


Figure 20. Balancing Blade

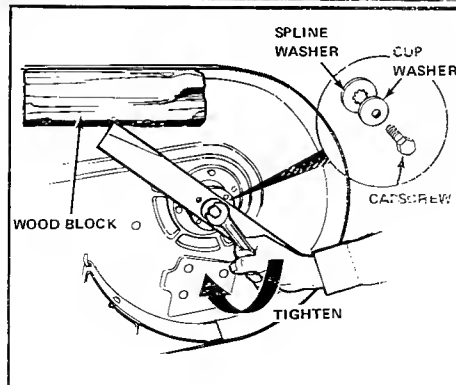


Figure 21. Installing Blade

### MOWER OFF-SEASON STORAGE

To protect your mower, store it in an enclosed dry area. To prepare the mower for off-season storage perform the following.

1. Remove mower from tractor. (See Mower Installation and Removal section.)
2. Clean top and underside of mower to remove all grass and dirt.
3. Coat all bare metal surfaces with a good quality paint (available from your dealer) or a light coat of oil to prevent rusting.
4. Lubricate mower (page 15).
5. Check, sharpen and balance the mower blades (page 17).



| Problem                                      | Cause/Remedy  |
|--|---|
| 4. Engine stalls easily with mower engaged.  | <p>A. Tractor ground speed too fast. Use lower gear.</p> <p>B. Engine speed too slow. Set for three-fourths to full speed.</p> <p>C. Cutting height set too low when mowing tall grass. Cut tall grass at maximum cutting height during first pass.</p> <p>D. Discharge chute jamming with cut grass. Cut grass with discharge pointing toward previously cut area.</p> |
| 5. Excessive mower vibration.                | <p>A. Blade mounting screws are loose. Torque to 50 Ft. Lbs. (68 N m). See Normal Care section.</p> <p>B. Mower blades, arbors, or pulleys are bent. Check and replace as necessary.</p> <p>C. Mower blades are out of balance. Remove, sharpen, and balance blades (see Normal Care section).</p>  |
| 6. Excessive belt breakage.                  | <p>A. Belt tension too tight. Readjust belt tension.</p> <p>B. Bent or rough pulleys. Repair or replace.</p> <p>C. Using incorrect belt. See your dealer.</p>   |
| 7. Mower drive belt slips or fails to drive. | <p>A. Mower drive belt out of adjustment. See Adjustment section.</p> <p>B. Mower drive belt broken. Replace belt.</p>  |

**Table 3. Troubleshooting (Cont'd)**

#### **BATTERY REPLACEMENT**

A dead battery or one too weak to start the engine may not mean the battery needs to be replaced. It may, as an example, mean that the alternator is not charging properly. If there is any doubt about the cause of the problem, see your dealer. If you need to replace the battery, proceed as shown in the battery cleaning procedure (page 14).

#### **JUMP STARTING WITH AUXILIARY (BOOSTER) BATTERY**

Jump starting is not recommended. However, it must be done, follow these directions. Both booster and discharged batteries should be treated carefully when using jumper cables. Follow exactly the following procedure, being careful not to cause sparks.

| Problem  | Cause/Remedy   |
|--|--|
| 2. Engine starts hard or runs poorly.                      | <p>A. Fuel mixture too rich. Disengage engine CHOKE. If problem still exists, clean air filter.</p> <p>B. Carburetor adjusted incorrectly. See your engine manual.</p> <p>C. Spark plug or points faulty, fouled, or incorrectly gapped. Clean and gap or replace.</p>                   |
| 3. Engine knocks.  | <p>A. Low oil level. Check/add oil as required.</p> <p>B. Using wrong grade oil. See Normal Care section.</p>  |
| 4. Excessive oil consumption.                              | <p>A. Engine running too hot. Clean engine fins, blower screen and air cleaner. See Normal Care section.</p> <p>B. Using wrong weight of oil. See Normal Care section.</p> <p>C. Too much oil in crankcase. Drain excessive oil.</p>   |
| 5. Engine exhaust is black or smoky.                       | <p>A. Dirty air filter. Clean air filter.</p> <p>B. Choke does not open when knob is pushed in (6116, 6118) or throttle is moved out of CHOKE position (6108, 6111).</p>   |
| 6. Engine runs, but tractor will not drive or lacks power. | <p>A. Transmission not in gear. Shift into gear.</p> <p>B. Drive belt slips. (See problem and cause below.)</p>  |
| 7. Drive belt slips.                                       | <p>A. Clutch or belt tension is out of adjustment. See Adjustment section.</p> <p>B. Pulleys or belt greasy or oily. Clean as required.</p> <p>C. Belt stretched or worn. Replace with correct belt.</p> <p>D. Clutch rod binding in guide. Oil clutch rod. See Tractor Lubrication.</p> |

Table 3. Troubleshooting (Cont'd)

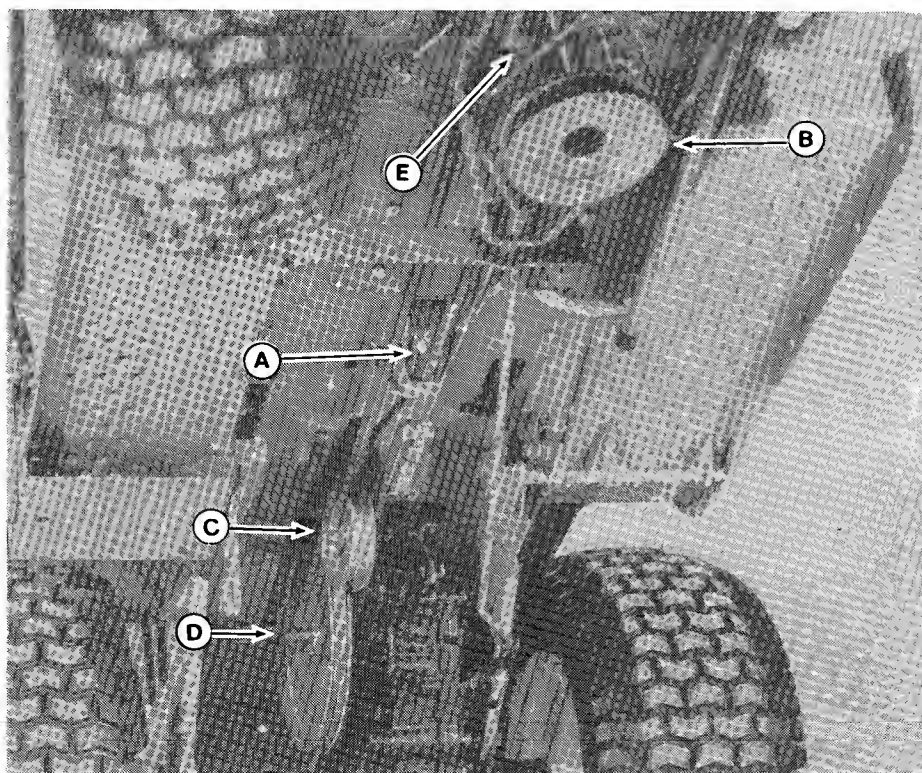
## TRACTOR DRIVE BELT REPLACEMENT



### WARNING

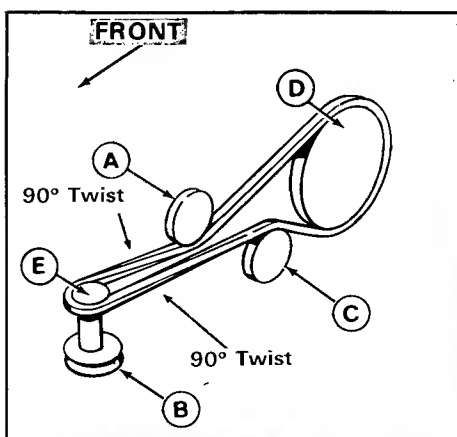
Stop the engine, set the parking brake, and remove the key to prevent accidental starting.

1. Remove the mower from the tractor.
2. Loosen the screw which secures the fixed idler pulley (A, figure 22) and slip the belt off.
3. Remove the belt from the engine drive pulley (E) (loosen belt stops as necessary).
4. Slip the belt off the idler pulley (C) and transmission pulley (D). Remove belt from tractor.
5. Install the new belt as shown in figure 22. The belt pattern is shown in figure 23.
6. Adjust the engine drive pulley belt stops according to Adjustment section. Tighten the fixed idler mounting screw loosened in step 2.



A. Fixed Idler Pulley    C. Idler Pulley  
B. PTO Pulley    D. Transmission Pulley    E. Drive Pulley

Figure 22. Tractor Drive Belt



- A. Fixed Idler Pulley
- B. PTO Pulley
- C. Idler Pulley
- D. Transmission Pulley
- E. Drive Pulley

**Figure 23. Tractor Drive Belt Pattern**

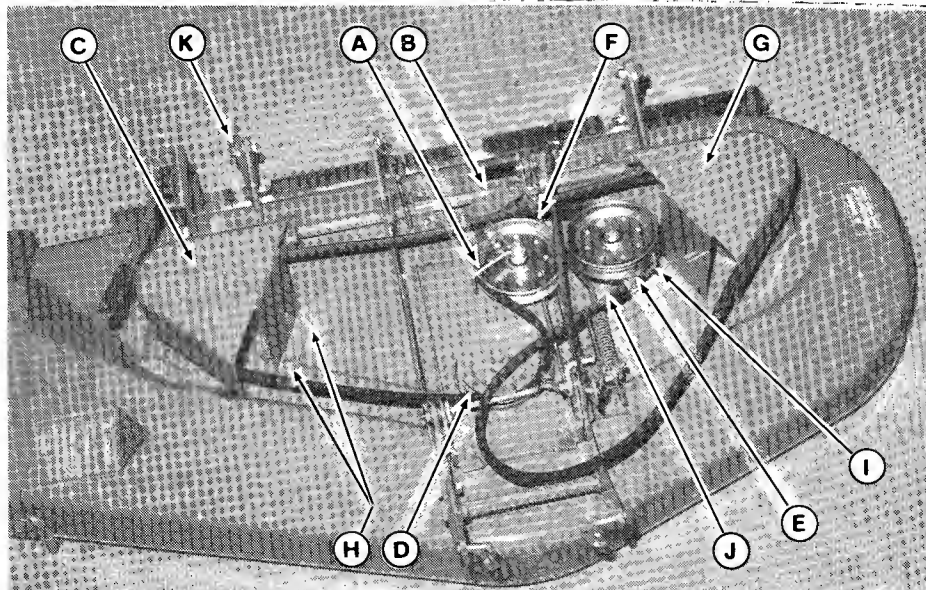
### MOWER DRIVE BELT REPLACEMENT 42" & 48" MOWERS

The only difference between the 42" and 48" mowers, other than the size, is the left arbor cover. To replace the belt on either mower proceed as follows.

1. Remove the mower from the tractor.

2. Loosen the left belt stop (I, figure 24) enough to slip the belt off the pulley. Remove the right belt stop (A).
3. Remove both arbor covers. For the

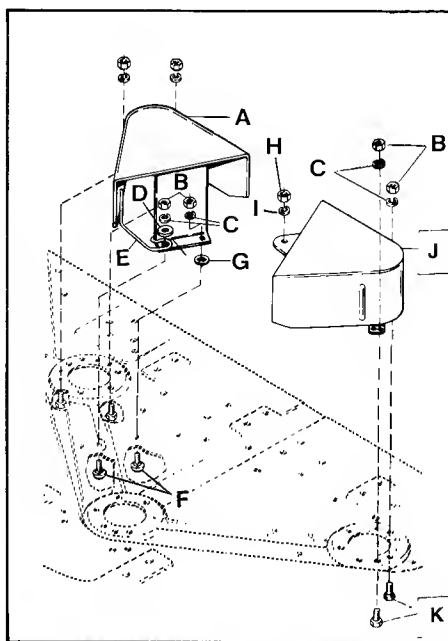
42" mower, go to step 4. For the 48" mower, go to step 5. Before removing take note of which holes in the housing are used for the mounting hardware.



- |                        |                          |                     |                                       |
|------------------------|--------------------------|---------------------|---------------------------------------|
| A. Belt Stop, Right    | D. V-Pulley, Front Arbor | G. Left Arbor Cover | J. Idler Support (under idler pulley) |
| B. Idler Pivot Bracket | E. Flat Idler Pulley     | H. Nut, Arbor Cover | K. Shoulder Bolt                      |
| C. Right Arbor Cover   | F. Flat Idler Pulley     | I. Belt Stop, Left  |                                       |

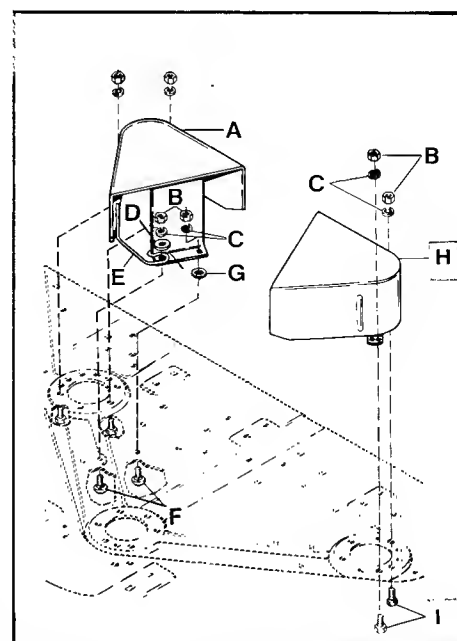
**Figure 24. Mower - 48" Shown**

4. **42" mower only.** Remove the right arbor cover by removing two carriage bolts in front and two capscrews in rear (see figure 25). Remove the nut (H) and lockwasher (I) which secures left arbor cover to the idler pulley. Remove the two capscrews (K) which secure the rear of the left arbor cover.
5. **48" mower only.** Remove both arbor covers by removing two carriage bolts in front and two capscrews in back. See figure 26. Remove attaching hardware.
6. Remove the old belt.
7. Install the new belt on the pulleys. The belt pattern is shown in figure 27. Notice that the "V" side of belt drives the V-pulleys and flat side of belt rides on the flat idler pulleys. Be sure there are no twists in the belt.
8. Reinstall the mower on the tractor (see Mower Installation). Check mower drive belt tension and belt stop adjustments as described in Adjustments section. Run the mower under no load for about five minutes and recheck mower drive belt tension adjustment.



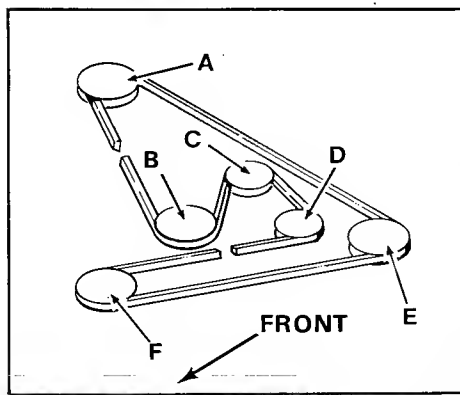
- |                       |                      |
|-----------------------|----------------------|
| A. Arbor Cover, Right | G. Nut, Cage         |
| B. Nut                | H. Nut               |
| C. Lockwasher         | I. Lockwasher        |
| D. Plain Washer       | J. Arbor Cover, Left |
| E. Belt Stop          | K. Capscrew          |
| F. Bolt, Carriage     |                      |

Figure 25. Arbor Covers - 42" Mowers



- |                       |                      |
|-----------------------|----------------------|
| A. Arbor Cover, Right | F. Bolt, Carriage    |
| B. Nut                | G. Nut, Cage         |
| C. Lockwasher         | H. Arbor Cover, Left |
| D. Plain Washer       | I. Capscrew          |
| E. Belt Stop          |                      |

Figure 26. Arbor Covers - 48" Mower

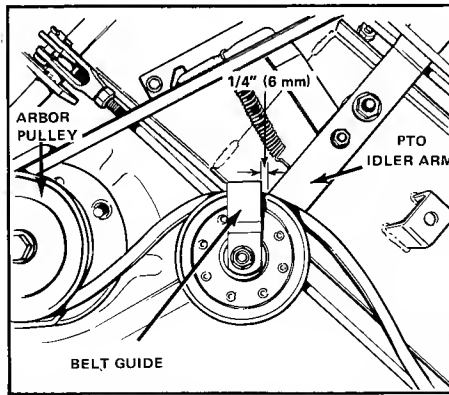


- A. V-Pulley, Right Arbor
- B. V-Pulley, Front Arbor
- C. Flat Idler Pulley
- D. Flat Idler Pulley
- E. V-Pulley, Left Arbor
- F. Engine PTO Pulley

**Figure 27. Mower Belt Pattern - 42" & 48"**

**DRIVE BELT REPLACEMENT - 36" MOWER**

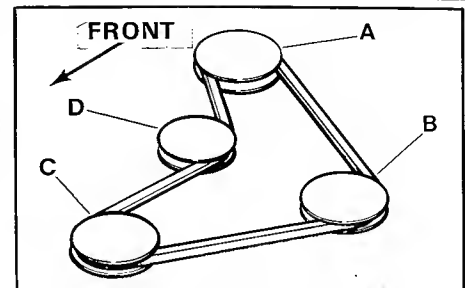
1. Remove mower from tractor.
2. Loosen the belt guide on the idler pulley on the PTO idler arm (see figure 28).



**Figure 28. Mower Belt Replacement**

3. Remove the belt from the arbor pulleys.
4. Install the new belt on the arbor pulleys and idler pulley, repositioning belt guide on idler pulley. The belt pattern is shown in figure 29. Before tightening nut on idler pulley belt guide, position the belt guide so it is 1/4 inch (6 mm) behind the idler arm, when viewed from above (see figure 28). Then hold the belt guide and tighten the nut.

5. Reinstall the mower on the tractor (see Mower Installation). Check mower drive belt-tension and belt stop adjustments as outlined in the Adjustment section. Run the mower under no load conditions for about 5 minutes and recheck the mower drive belt tension.



- A. V-Pulley, Right Arbor
- B. V-Pulley, Left Arbor
- C. Engine PTO Pulley
- D. Flat Idler Pulley

**Figure 29. Mower Belt Pattern - 36"**

## Adjustments



### WARNING

Perform adjustment procedures on the tractor only when the engine is stopped. Always remove the ignition key before beginning the adjustment procedures to prevent accidental starting of the engine. Set parking brake unless otherwise directed.

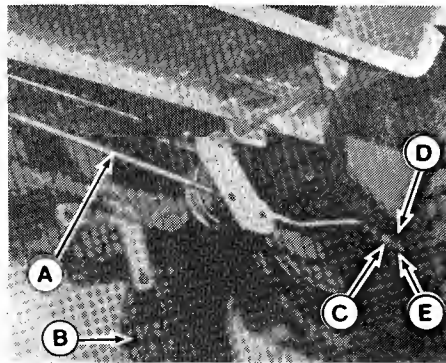
### TRACTOR BRAKE ADJUSTMENT

1. Place the tractor on a level surface so it will not roll. The parking brake will be released during this procedure.
2. Place the transmission in gear. Release the parking brake; the clutch-brake pedal must in up position.

#### NOTE

See figure 30 to locate brake rod. A close-up view is shown in figure 30A.

3. If the brake rod (A, figure 30) is sagging, push it up slightly so it appears as in figure 30A. Pull forward on the brake band to take out any slack.



A. Brake Rod B. Right Rear Tire C. Spacer D. Brake Band E. Locknut

Figure 30. Brake Adjustment

4. Measure the gap between the spacer (C) and the brake band (D). The gap should measure between  $5/16$  and  $7/16$  inch (8 to 11 mm). See figure 30A.
5. If the gap is not  $5/16$  to  $7/16$  inch, loosen or tighten the locknut to achieve the correct measurement. For safety, a minimum of two full threads must extend through the nut. See figure 30A.

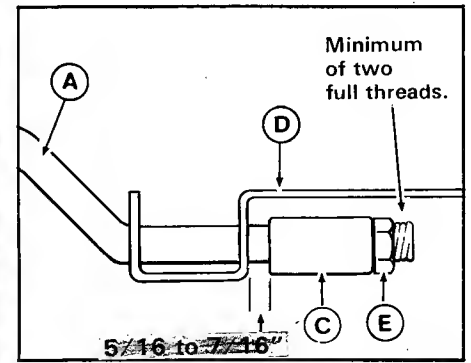
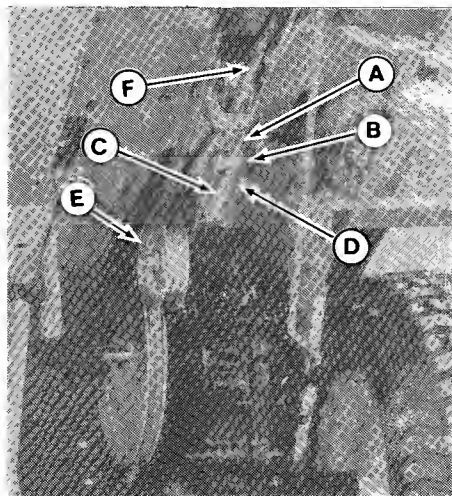


Figure 30A. Brake Adjustment Measurement

### TRACTOR CLUTCH ADJUSTMENT

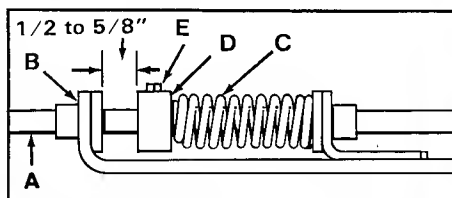
1. Place the tractor on a level surface so it will not roll.
2. Place the transmission in gear. Engage the parking brake; the clutch-brake pedal must be in up position.
3. Measure the distance between the set collar (D, figure 31) and rod guide (B). The distance should measure between  $1/2$  and  $5/8$  inch (13 to 16 mm). See figure 31A to take measurement.

4. If not, set parking brake. Loosen the setscrew (E, figure 31A) and move the rod forward or back to achieve correct measurement. Tighten the setscrew.
5. Disengage the parking brake and recheck the measurement.



A. Clutch Rod  
B. Rod Guide  
C. Spring  
D. Set Collar  
E. Idler Pulley  
F. Drive Belt

Figure 31. Tractor Clutch Adjustment

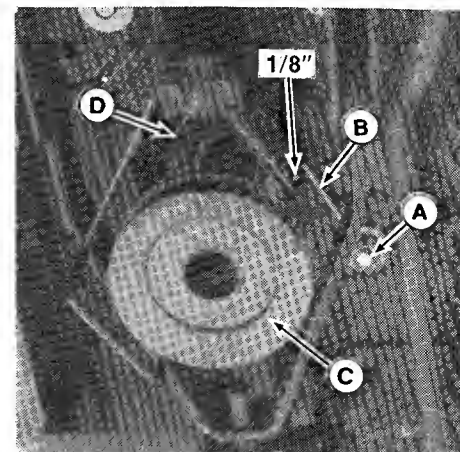


A. Clutch Rod  
B. Rod Guide  
C. Spring  
D. Set Collar  
E. Setscrew

Figure 31A. Tractor Clutch Adjustment-Measurement

#### DRIVE PULLEY BELT STOPS ADJUSTMENT

1. With the clutch engaged (pedal up) measure the distance between each belt stop (B, figure 32) and the belt. The distance should be 1/8 inch (3 mm).
2. If not, loosen the capscrew (A) and move the belt stop.
3. Retighten the capscrew and recheck the measurement for both belt stops.



A. Capscrew  
B. Belt Stop (one on each side)  
C. PTO Pulley  
D. Drive Pulley

Figure 32. Drive Pulley Belt Stops



## MOWER ADJUSTMENTS

### Mower Drive Belt Tension Adjustment - All Models

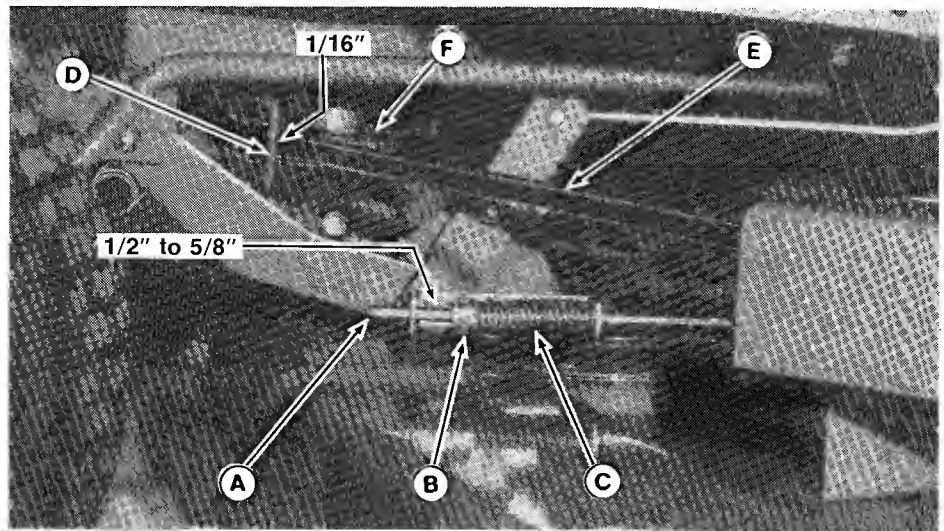
If the mower belt slips or fails to drive, the mower belt tension may need adjustment. To check, proceed as follows.

1. Place the mower in high cut, using height control lever. Place the PTO lever in engaged position.

#### NOTE

In the following steps, refer to figure 33 for the 42" and 48" mower or to figure 34 for the 36" mower.

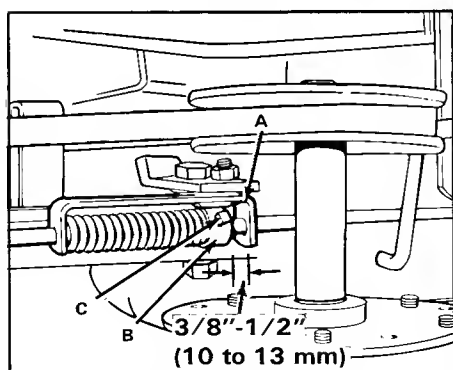
2. Measure the distance between the PTO rod guide (A) and the set collar (B). The distance should measure as shown in figure 33 or 34. If not, proceed to step 3.
3. Place the PTO lever in disengaged position.
4. Loosen the setscrew in the set collar (B). Move the rod forward to increase gap, or backward to decrease gap. Retighten the setscrew.



A. PTO Rod Guide  
B. Set Collar  
C. Spring  
D. Belt Stop  
E. Drive Belt  
F. Engine PTO Pulley

Figure 33. Mower Drive Belt Tension Adjustment - 42" & 48"

5. Repeat the adjustment as necessary until the distance measures as shown in figure 33 or 34 with the PTO lever in engaged position.
6. Check the adjustments of the PTO pulley belt stops and the mower belt stops.

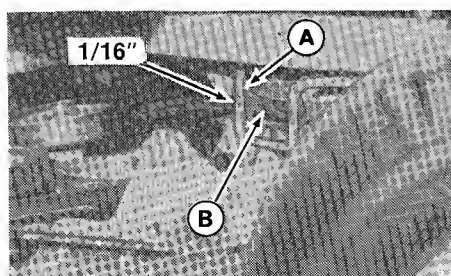


A. Rod Guide C. Setscrew  
B. Set Collar

**Figure 34. Mower Drive Belt Tension Adjustment - 36" Mower**

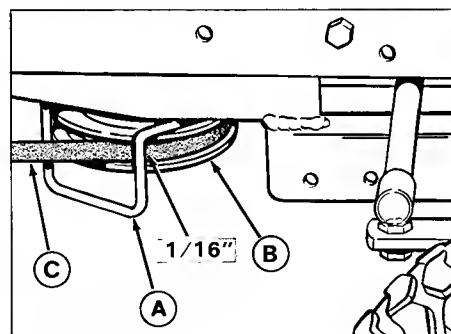
**PTO Pulley Belt Stops Adjustment — All Models**

There are two belt stops at the PTO pulley; one on the left (figure 33) and one on the right (figure 35A or 35B). With the PTO lever engaged, measure the distance between the belt stop and belt. There should be 1/16 inch (1.5 mm) clearance between each belt stop and the belt. To adjust a belt stop, loosen its mounting capscrew, move the belt stop, and retighten the capscrew. Recheck the measurement.



A. Belt Stop B. Drive Belt

**Figure 35A. Right Hand Belt Stop, PTO Pulley - 42" & 48" Mowers**



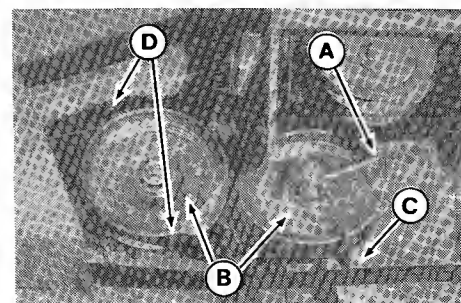
A. Belt Stop C. Belt  
B. PTO Pulley

**Figure 35B. Right Hand Belt Stop, PTO Pulley - 36" Mower**

**Mower Belt Stops - 42" & 48" Mower**

**Right Idler Pulley Belt Stop.** Make sure the long side of the right belt stop (A, figure 36) is inserted in idler pivot bracket slot (C). There is no adjustment.

**Left Idler Pulley Belt Stop.** Make sure the belt stop (D) is level with the pulley. If the belt stop is level, each side will be an equal distance from the belt. To reposition the belt stop, loosen the mounting capscrew on the bracket underneath the pulley. Retighten hardware securely.



A. Right Belt Stop D. Left Belt Stop  
B. Idler Pulleys  
C. Idler Pulley Bracket

**Figure 36. Mower Belt Stops - 42" & 48" Mowers**

## Mower Levelling, Side-To Side - 42" & 48" Mowers

### NOTE

The purpose of levelling the mower is to achieve an even grass cut. Remember that improper or unequal tire pressure will cause an uneven cut. Also, different terrains may require different side-to-side adjustments. If you don't achieve an even cut with the mower level, try raising one side slightly higher.



### WARNING

To avoid accidental starting during levelling check, remove the ignition key and remove both spark plug wires and fasten them away from the spark plugs.

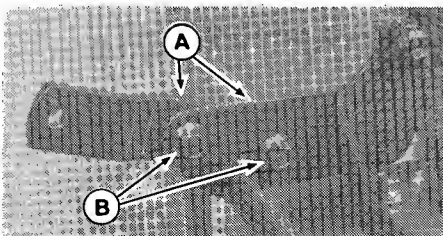
### NOTE

Tractor and mower must be on a level surface.

1. To check for side-to-side levelness on the mower, disengage the mower clutch

and position the blades so they are pointing side-to-side.

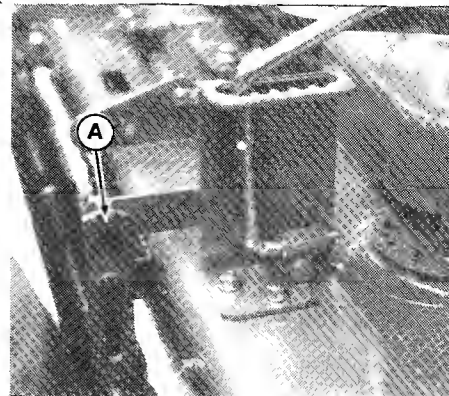
2. Engage the clutch.
3. Measure the distance from the outside tips of the blade to the ground. If the difference between the two measurements is less than 1/8 inch (3 mm), the mower is level. If not, proceed with next steps.
4. Loosen the two capscrews and flange nuts in right mower hitch (figure 37).
5. Loosen the shoulder bolt (A, figure 38) and raise or lower mower as necessary to level it. Retighten the shoulder bolt.



A. Capscrews      Shown with mower removed.  
B. Flange Nuts

Figure 37. Mower Hitch - Right Side

6. Retighten the two capscrews (A, figure 37) and flange nuts (B).
7. Check the measurement and readjust as necessary.



A. Shoulder Bolt

Figure 38. Shoulder Bolt

8. Check Mower Levelling, Front-to-Back, page 33.

### Mower Levelling, Front-To-Back, 42" & 48" Mowers



#### WARNING

To avoid accidental starting during levelling check, remove the ignition key and then remove both plug wires and fasten them away from the spark plugs.

#### NOTE

Tractor and mower must be on a level surface. Check side-to-side adjustment first (page 32).

For smoothest mowing results, the mower should be adjusted so that the front tip of the center blade is 1/8 to 1/4 inch (3 to 6 mm) higher than the rear tips of the left and right blades. To check, follow these steps:

1. Place the tractor with the mower mounted on a smooth, level surface such as concrete. Place the mower in the highest cutting position, and place the mower lift lever in the lowered position.

2. Arrange the blades so that they are pointing forward and back, parallel with the tractor. Engage the mower clutch.
3. Measure the distance from the front tip of the center blade to the ground, and note that measurement. (See figure 39.)
4. Measure the distance to the ground from the rear tips of the left and right blades. Compare these measurements with the measurement from the front tip of the center blade. The front tip of the center blade should be 1/4 inch (6 mm) higher than the rear tips of the side blades (figure 39).
5. If adjustment is needed, remove the two pins (A, figure 40) by removing the cotter pins. Loosen the jam nuts (C).
6. Turn both turnbuckles the same number of turns, shortening the bail arms to raise the front of the mower and lengthening the bail arms to lower the front of the mower.
7. Replace pins through turnbuckles and height adjustment arm and recheck

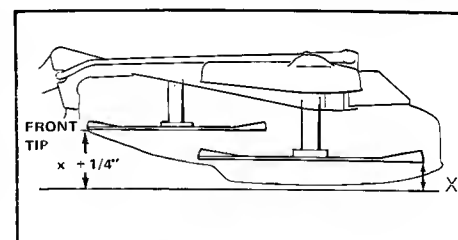
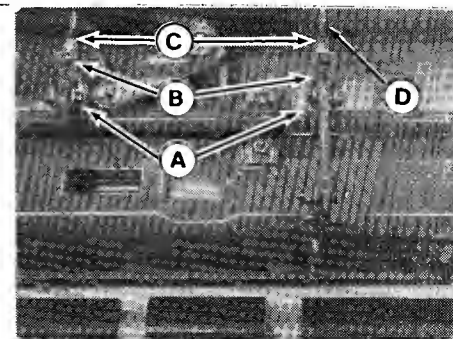


Figure 39. Levelling Mower - 42" & 48"

measurements. When the proper measurement is reached, install new cotter pins through the pins and tighten the jam nuts to the turnbuckles.

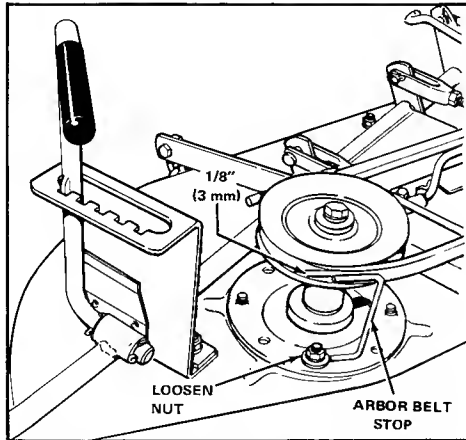


A. Pins  
B. Turnbuckles  
C. Jam Nuts  
D. Bail Arm

Figure 40. Roller Bar - 42" & 48"

## Mower Belt Stop Adjustment - 36" Mower

The right arbor belt stop should be adjusted so that it is 1/8 inch (3 mm) from the belt with the PTO engaged (see figure 41). If it is not, loosen the nut and lockwasher and move the belt stop until the 1/8 inch clearance is reached. Then retighten the nut while holding the belt stop from moving.



**Figure 41. Right Arbor Belt Stop Adjustment**

## Mower Levelling - 36" Mower

If the 36 inch mower is giving an uneven cut, or if one side of the mower cuts at a different height than the other side, then the mower needs levelling. Remember improper pressure can cause an uneven cut. To level the mower, proceed as follows:



### WARNING

To avoid accidental starting during levelling check, remove ignition key and then remove the spark plug wire and fasten it away from the spark plug.

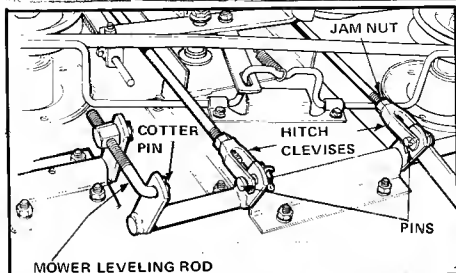
1. With the mower installed, place the tractor on a smooth level surface, such as a concrete floor.
2. Check for bent blades, and replace if necessary.
3. Engage the clutch. Arrange the mower blades so that they are both pointing from side-to-side, perpendicular to the tractor.
4. Measure the distance between the outside tips of each blade and the

ground. If there is more than 1/8 inch (3 mm) difference between the measurements on each side, proceed to step 5. If there is 1/8 inch or less difference proceed to step 6.

5. Remove the cotter pin holding on the mower levelling rod (figure 42). Shorten the rod to raise the left side of the mower, or lengthen the rod to lower the left side of the mower. Put the levelling rod back in its hole and recheck the measurements. When both sides are the same height, replace the cotter pin in the levelling rod.
6. Disengage mower clutch to arrange the blades so they are facing front to back, parallel with the tractor. Engage mower clutch again.
7. Measure the distance to the ground from the front tip of the left blade and the rear tip of the right blade. The measurements should be equal. If they are not, proceed as follows.
8. Remove the cotter pins and pins from the hitch clevises (figure 42). Turn each clevis an equal number of turns in the same direction. Shorten the hitch rods to raise the front of the

mower, the hitch rods to lower the front of the mower.

9. Replace pins through clevises and rear suspension arm and recheck measurements. When the mower is level replace and spread cotter pins, and tighten nuts against clevises.



**Figure 42. Levelling Mower**

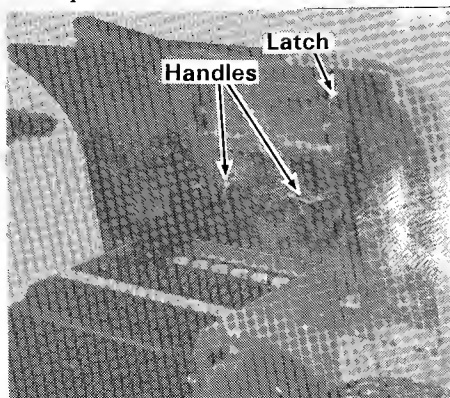
#### SEAT ADJUSTMENT

##### NOTE

If the seat is equipped with springs, see "Seat Adjustment with Spring Suspension."

The seat may be moved forward or backward to suit different size operators. To move the seat proceed as follows:

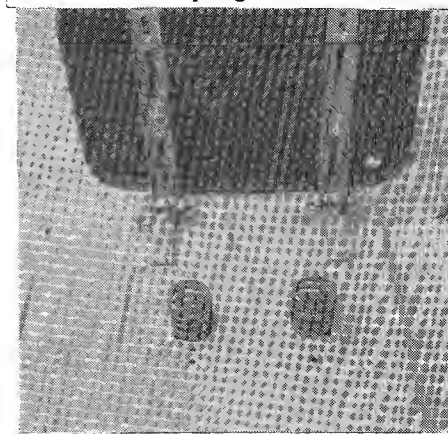
1. Raise the seat deck by lifting the latch on the left side of the seat (see figure 43).
2. Loosen the two handles (figure 43) holding the seat.
3. Move the seat forward or backward as desired.
4. Tighten the handles to hold the seat in place.



**Figure 43. Seat Adjustment**

#### SEAT ADJUSTMENT WITH SPRING SUSPENSION

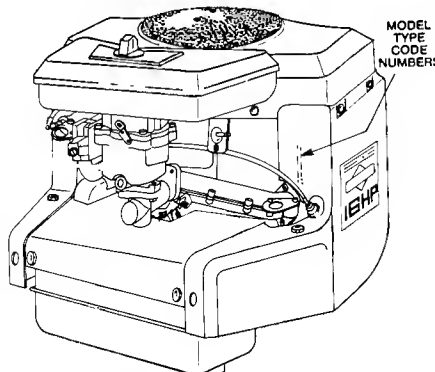
1. Lift up the seat from the rear (figure 43).
2. Loosen the four nuts under the seat and slide the seat forward or backward. Tighten the nuts firmly.
3. The springs can be moved to different holes in the deck for maximum riding comfort. A lighter person will want to move the springs more forward.



**Figure 43. Seat With Spring Suspension**

## Tractor Identification

When ordering replacement parts for your tractor, be prepared to give your dealer the identification numbers found on the tractor and engine identification plates. The identification plate for the tractor is located under the seat deck next to the shift lever. The engine I.D. plate is located as shown. The rotary mower identification plate is located on the rear-center of the mower housing. We suggest that you locate the numbers and record them here for easy reference.



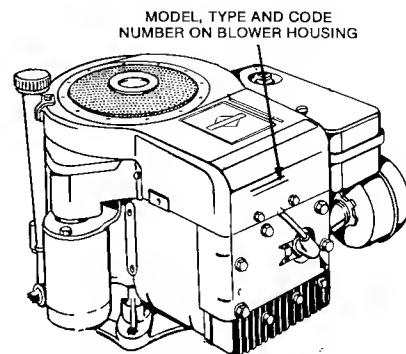
16 & 18 H.P.

Tractor Mfg. No. \_\_\_\_\_

Tractor Serial No. \_\_\_\_\_

Mower Mfg. No. \_\_\_\_\_

Mower Serial No. \_\_\_\_\_



8 & 11 H.P.

Engine I.D. \_\_\_\_\_

Type \_\_\_\_\_

## Specifications

### **BASIC ENGINE - 6108**

**Make:** Briggs & Stratton - 4 cycle, air cooled  
**Model No.:** 191707; **Type:** 5625-01  
**Horsepower:** 8 @ 3600 rpm (5.9 kW)  
**Cylinder:** 1 Horizontal  
**Bore:** 3.00 Inches (76.2 mm)  
**Stroke:** 2.75 Inches (69.9 mm)  
**Displacement:** 19.44 Cu. In. (320 cc)  
**Crankshaft:** Vertical  
**Battery:** 12 Volt, 32 amp hr. Auto Battery  
**Governor:** Mechanical, full throttle no load setting:  
3400  $\pm$  100 rpm;  
Idle speed setting: 1750  $\pm$  100 rpm  
**Crankcase:** See Briggs & Stratton Maintenance Instructions for oil recommendations and crankcase capacity.

### **BASIC ENGINE - 6111**

**Make:** Briggs & Stratton - 4 cycle, air cooled  
**Model No.:** 252707; **Type:** 0131-01  
**Horsepower:** 11 @ 3600 rpm (8.2 kW)  
**Cylinder:** 1 Horizontal  
**Bore:** 3.44 Inches (87.4 mm)  
**Stroke:** 2.62 Inches (66.4 mm)

**Displacement:** 24.36 Cu. In. (395 cc)  
**Crankshaft:** Vertical  
**Battery:** 12 volt, 39 amp hr. Auto Battery  
**Governor:** Mechanical, full throttle no load setting  
3400  $\pm$  100 rpm; Idle speed setting 1750  $\pm$  100 rpm  
**Crankcase:** See Briggs & Stratton Maintenance Instructions for oil recommendations and crankcase capacity.

### **BASIC ENGINE - 6116 & 6118**

**Make:** Briggs & Stratton - 4 cycle, air cooled  
**Model No. 6116:** 401707  
**6118:** 421707  
**Horsepower: 6116:** 16 @ 3600 rpm (11.9 kW) (engine mfg. rating)  
**6118:** 18 @ 3600 rpm (13.5 kW) (engine mfg. rating)  
**Cylinders:** 2 Horizontally Opposed  
**Bore:** 3.44 Inches (87.4 mm)  
**Stroke: 6116:** 2.16 Inches (54.9 mm)  
**6118:** 2.28 Inches (57.9 mm)  
**Displacement: 6116:** 40 Cu. In. (655 cc)  
**6118:** 42.33 Cu. In. (693 cc)  
**Crankshaft:** Vertical  
**Battery:** 12 volt, 39 amp hr. Auto Battery  
**Governor:** Mechanical, full throttle no load setting  
3400  $\pm$  100 rpm, Idle speed setting 1350  $\pm$  100 rpm  
**Crankcase:** See Briggs & Stratton Maintenance Instructions for oil recommendations and crankcase capacity.



## Specifications

### ENGINE - ALL MODELS

**Electrical System:** Unregulated 3 amps DC  
Charging Circuit and 60-100 watt AC  
Lighting Circuit, Key Start

**Starter:** 12 volt gear drive

**Fuel Tank:** Capacity 2.2 gallons

### TRANSAXLE - ALL MODELS

**Type:** All gear; running in oil bath

**Drive:** Belt drive to transmission

**Speeds:** Three forward, One reverse

**Speeds @ 3400 rpm:** Low: 1.1 mph (1.8 km/h)

Second: 2.8 mph (4.5 km/h)

Third: 4.4 mph (7 km/h)

Reverse: 2.8 mph (4.5 km/h)

### CHASSIS

**Frame:** Heavy Gauge Steel Channel

**Engine Mounting:** Above front axle

**Pivot Point Location:** Front Axle

**Tire: 6108, 6111:** Rear - 20 x 8.00-10

Front - 15 x 6.00-6

**Tires: 6116 & 6118:** Rear - 20 x 10.00-10

Front - 15 x 6.00-6

**Accessability:** Hood tips forward, seat deck tips rearward

**Seat:** Adjustable

**Turning Radius 6116 & 6118:** (To inside rear wheel) 24 in.  
**6108 & 6111:** (To inside of rear wheel) 25 in.

### DIMENSIONS - 6108 & 6111

**Overall Length:** 66.25 Inches

**Overall Width:** 33.5 Inches

**Height:** (To top of steering wheel) - 40.0 Inches

(To top of hood) - 31.88 In. front, 34.5 In. rear

**Wheel Base:** 45.5 Inches

**Weight 6108:** (Tractor only) - 364 lbs.

(Shipping weight w/mower) - 560 lbs.

**Weight 6111:** (Tractor only) - 380 lbs.

(Shipping weight w/mower) - 612 lbs.

### DIMENSIONS - 6116 & 6118

**Overall Length:** 66.5 Inches (1.69 m)

**Overall Width:** 35.5 Inches (901 mm)

**Height:** (To top of steering wheel) - 40 Inches (1016 mm)

(To top of hood) - 34.5 Inches (876 mm)

**Wheel Base:** 48.2 Inches (1.22 m)

**Weight:** (Tractor only) - 430 lbs.

(Shipping weight w/mower) - 671 lbs.

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### **36" MOWER**

**Effective Cutting Width:** 36 Inches (914 mm)

**Overall Width w/Deflector:** 46 Inches (1.2 m)

**Weight:** 76 lbs. (34.5 kg)

**Cutting Height:** Adjustable

**Blade Arrangement:** Two Staggered Blades

**Mower Drive:** V-belt from tractor PTO pulley

### **42" MOWER**

**Effective Cutting Width:** 42 Inches (1067 mm)

**Overall Width w/Deflector:** 57 Inches (1448 mm)

**Weight:** 112 lbs. (51 kg)

**Cutting Height:** Adjustable

**Blade Arrangement:** Three Staggered Blades

**Mower Drive:** V-belt from tractor PTO pulley

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### **48" MOWER**

**Effective Cutting Width:** 48 Inches (1219 mm)

**Overall Width w/Deflector:** 63 Inches (1.6 m)

**Weight:** 121 lbs. (55 kg)

**Cutting Height:** Adjustable

**Blade Arrangement:** Three Staggered Blades

**Mower Drive:** V-belt from tractor PTO pulley

**SPECIFICATIONS SUBJECT  
TO CHANGE WITHOUT NOTICE**

- ☐ I would like parts manual (TP-768) for my 6100 Series tractor and mower. Enclosed is a check or money order for \$5.00.
- ☐ I would like parts manual (TP-733) for 6100 Series attachments. Enclosed is a check or money order for \$5.00
- ☐ I would like both parts manuals listed above. Enclosed is a check or money order for \$10.00.

Simplicity Manufacturing Co.  
Attn: Customer Publications  
500 N. Spring Street  
Port Washington, WI 53074

(Print clear this will be your mailing label)

NAME \_\_\_\_\_ Tractor Mfg. No. \_\_\_\_\_  
STREET OR RFD \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

## PARTS MANUAL AVAILABLE FOR 6100 SERIES TRACTORS AND ATTACHMENTS

Simplicity Parts Manuals are fully illustrated. All of the assemblies are shown in exploded views which show the relationship of the parts and how they go together. Important assembly notes and special torque values are included in the illustrations. For standard hardware, a torque specification chart is included.

To order enclose the form with a check or money order made out to SIMPLICITY. Address the envelope to:

Simplicity Manufacturing Co.  
Attn: Customer Publications  
500 N. Spring Street  
Port Washington, WI 53074

Parts Manual TP-768 contains Models 6108, 6111, 6116, & 6118 tractors and 36", 42" & 48" Rotary Mowers.

Parts Manual TP-733 contains other major attachments and serviced accessories for 6100 Series tractors.

CUT HERE

